# Infinite Campus Private Cloud Hosting
# Frequently Asked Questions
11/14/2016

**Q: What is the reason for going to a cloud hosting solution?**
**A:** The Infinite Campus Private Cloud solution reduces costs by having data and hardware in a single location, creating efficiencies in hardware and service; provides better physical security; allows for quicker troubleshooting and resolution of server/software issues; and reduces dependencies on KDE and district-managed infrastructure.

**Q: Will districts be required to go to cloud hosting?**
**A:** No. Each district will decide whether they want to move to Infinite Campus Private Cloud hosting.

**Q: What are the hosting costs now and what will they become?**
**A:** A portion of the current Infinite Campus fee is for hosting. Currently, that portion is $1.36 per average daily membership (ADM). Going forward, there will be two cost options, one for Infinite Campus Private Cloud hosting and one for on-premise hosting.  For districts going to the Infinite Campus Private Cloud, the hosting portion would be $.75 (a 61 cents decrease) and for those remaining on-premise the cost will be $2.50 (a $1.14 increase).
Cost increases has been proposed over the last few years, but have been delayed to take advantage of cost savings that could come from migration to the cloud.

**Q: Why is the on-premise cost more expensive?**
**A:** Regardless of the number of calls, there is the cost to maintaining a service that is available when needed. Cost of hardware and associated service continue to increase and contract has not been adjusted.  Hardware costs for on-premise hosting are less efficient than for cloud hosting.  There are also additional costs associated with managing the data services between two networks for those that opt to stay on premise.

**Q:  Why will it be easier to troubleshoot issues?**
**A:**  Most issues lie in the database.  Infinite Campus has additional tools that can be used on their local network to quickly diagnose database performance. In addition, the expertise will be immediately available at the Infinite Campus location.

**Q: Will this affect pricing for optional Infinite Campus modules such as Food Service or Messenger?**
**A:** No.

**Q: What do other Campus Cloud Customers say about their experience?**
**A:** In December 2015 and January 2016, KDE staff spoke with two existing Campus Private Cloud customers, one a state Department of Education and the other a large school district (about 30,000 students), which had both migrated from on-premise Campus installations to the Campus Private Cloud service within the past year.

Both customers reported that the performance of the Campus web application was as good as or better than in their previous on-premise installation.  One customer reported occasional delays in Campus resolving issues, but it didn't sound significantly different than our current experience.

Both customers reported some issues with customer-created data extracts/reports; these have generally been connection and performance problems.  These reported issues were part of the reason KDE undertook performance testing during February-April 2016, and that KDE and Campus are going to implement a different connectivity method (a dedicated, AT&T-provided VPN connection between Campus and Kentucky) than was used by either of the other customers.


## Functionality

**Q:  Will the district URLs (web addresses) change?**
**A:**  Yes.  Districts will be provided new URL prior to the switch to the new Infinite Campus Private Cloud.

**Q: Will districts still have a sandbox?**
A: Yes. The location and URL will change.

**Q: Will Portal (Parent/Student) access be affected?**
**A:** The web-based Campus Portal will still be available and will look and work the same, but the URLs will change. The Infinite Campus mobile app will not be affected.

**Q:  How are extracts pulled for use with third party software?**
**A:**  A Premium Data Extract Utility integrated into the Infinite Campus User Interface is included for Infinite Campus Private Cloud districts at no additional charge.  This utility will allow transmitting the extracted data to local file servers, just like the existing Data Extract Utility.  More information about this utility is available in Campus Community; search for "Data Extract Utility Custom Development".  ODBC connectivity will also continue to be available.

**Q: What are the Delivery Modes (protocols) available when using the Premium Data Extract Utility?**
**A: They are:**
> SMB – transferring to a Windows file server using the native Windows file sharing standard
> FTP – File Transfer Protocol; requires an FTP server and does not protect passwords or data
> SFTP – FTP using SSH (Secure Shell); requires an SFTP server
> FTPS – FTP using SSL (Secure Sockets Layer); requires an FTP server configured for SSL
> PULL – requires Extract Utility Client installed on Windows that pulls the data from Campus

**Q: What are the pros and cons of each Delivery  Mode in the KETS environment?**
**A:** SMB
> Pro: Familiar
> Secure through Campus – KETS VPN
> Con: Each server requires configuration request to KDE
> Can only allow 3 servers per district
> Will be discontinued eventually (2018)

  FTP
> Pro: Broad support
> Con: Insecure/unsafe
> Requires specific software

SFTP
      Pro:    Secure
               Supported by some third parties
      Con:   Requires specific software and expertise

FTPS
      Pro:    Secure
               Supported by some third parties
      Con:   Requires specific software and expertise
               Difficult to configure in some network environments

PULL
      Pro:    Secure
               Software provided and supported by Campus
               Can install on any numbers of workstations/servers
      Con:   More complex initial configuration
               Client is only supported on Windows

**Q:  Will the district still be able to have read/write ODBC (Open Database Connectivity) connections to their database?**
**A:**  Yes.  You will have access to this feature. Connect to your database instance using standard SQL Server database tools to perform any additional data imports, updates and/or extracts you require. ODBC connection strings will need to be updated with new IP addresses.  There will be no new limitations on frequency or timing.

**Q:  Will the districts who currently have Remote Desktop Protocol (RDP) access still have this access to the system?**
**A:**  No, but the district will be provided tools and guidance to complete all of the tasks for which they previously used RDP.

**Q:  Will the district still be able to utilize SQL Server Reporting Services (SSRS)?**
**A:**  Yes. SSRS is available via secure connection from any web browser.

**Q: Will the district still be able to create SSIS packages on the SQL Server?**
**A:**  No.  However, the Data Extract Utility (described above) is included and ODBC is an additional option.

**Q: With the dedicated circuit, will the User Access Log show the local computer IP address (private IP) or the public IP address that has been NAT'd?**
**A:** No, access to the Cloud-based Campus web application will be through our general-purpose Internet connection, and from a Campus/Campus logs perspective the source addresses for in-district users will be NATted to public IP addresses just as they are for other Internet-based services/sites.  If the login occurs during low-traffic times, districts may be able to correlate entries in LightSpeed logs with the Campus logs to identify the local public IP address of a login, but this will be difficult and at times impossible.

**Q: Will IC Online Registration work in the cloud?**
**A:** Yes, Campus already has districts hosted in their cloud service that use on-line registration.

**Q: Will IC support Microsoft's Edge browser?**
**A:** Yes, but it has not been certified yet.


## Performance

**Q: What infrastructure will host the virtual servers?**
**A:** Application and Database server resource requirements are well known to Infinite Campus. VM density and availability is configured such that optimal response times will be maintained during peak load times. Infinite Campus Private Cloud is hosted in a highly reliable and redundant pair of data centers in Blaine, MN, which eliminates downtime due to potential failure of hardware components or systems. We also maintain a warm Disaster Recovery site in Las Vegas, NV.

**Q: Will there be enough bandwidth for good performance?**
**A:** For a typical district, daytime Infinite Campus network utilization will be about .1% of the district's KEN bandwidth (about 70 bits per second per student). For the state as a whole, expected daytime network utilization will be roughly 40 Mb/s, about 1% of the current KEN Internet bandwidth. Kentucky traffic will utilize about 7% of the Infinite Campus data center's connections to the Internet. IC currently hosts well over a million students with other customers and only hits 25% utilization of their connections at peak.

**Q: Will our district experience more Infinite Campus downtime?**
**A:** No, expectation is that uptime should be consistent with current experience. In the event of a server failure or catastrophe, down-time can be minimized by having servers hosted with Infinite Campus with the availability of a redundant site and the availability of a warm disaster recovery site.

The overall average uptime for districts' KEN connections for 2015 was 99.93%. This does not reflect downtime from power outages or other infrastructure problems at district hub sites.

**Q: Will districts still own their data?**
**A:** Yes. The only change is to the location of the servers housing your data.

**Q: Is the Infinite Campus Private Cloud secure?**
**A:** Yes. The Infinite Campus Private Cloud is a private cloud that only contains the data belonging to Infinite Campus customers and is accessible only by the Infinite Campus application. Within this cloud, different customers' data is segregated on different servers.

**Q: Will LDAP integration (login using Active Directory credentials) be affected?**
**A**: LDAP Integration will continue to be available but will require adjustment to new IP addresses.


## Timeline

**Q: What is the timeline?**
**A:** Frankfort-hosted districts will be migrated during Christmas break 2016. The spring and summer migration schedules for the current on-premise districts are still in development.

Until you are notified otherwise, proceed with any upgrades or other scheduled changes as determined by Infinite Campus.

**Q: How long will the system be inaccessible due to migration?**
**A:** Approximately 4 hours for each district that is currently on-premise. Migration of the Frankfort-hosted districts and the associated State Edition may require up to 48 hours of downtime.

**Q: Will on-premise districts be impacted at all when the Frankfort-hosted districts are migrated during winter break?**
**A:** State edition, the reporting warehouse, and Frankfort-hosted districts will migrate to the Cloud starting December 23rd at 3pm CT/4pm ET. The process should be completed by end of day on December 29th. During this time on-premise districts should expect Student Locator, Student Records Transfer, Custom Reports, and any other state syncing activities to not function. Infinite Campus will restart each on-premise district server at the end of the process to reactivate these tools.